The Rejection Under 35USC103

Reconsideration is respectfully requested of the rejection of the claims under 35USC103 as being unpatentable over Thomas et al.

Thomas et al relates to variants of alpha 1-antitrypsin for inhibiting furin endoproteases. The reference supports the non-obviousness of the invention by disclosing that native alpha 1-antitrypsin does not work. Note at column 11, lines 43 and 45 as well as Fig. 2. "Native α 1-antitrypsin is unable to inhibit furin or thrombin endoprotease activity".

Also at column 14, lines 4-6, it stats, "Co-expression of native or variant Pittsburg α 1-antitrypsin has no effect on syncytia formation caused by gp 41."

The reference plainly teaches that only the variants of α 1-antitrypsin inhibit furin endoproteases which is the essence of the patented invention.

The present invention is entirely different since it is based on a different mechanism. The present invention relates to treatment of the eye and ear where there is found not only mast cells, kinins, kallikireins but elevated IgE. The present invention relates not only to alpha 1-antitrypsin but secretory leucocyte protease inhibitor and anti-plasmin.

Schistosamiasis is an infection by Schistosoma mansoui in which there is an elevated IgE including IgE specific for schistosomes. Eosinopil, IL-4 and IL-5 production is increased. There is a release of inflammatory mediators as well as the pain factors.

The protease inhibitors function by binding with IgE to prevent the degranulation of mast cells. Alpha 1-antitrypsin is anti-IgE and also complexes with kinins and kallikreins.

The reduction of infection and the pain factors is a result of protease inhibitors forming complexes to reduce inflammation and pain and has nothing to do with furin endoproteases.

The variants of native alpha 1-antitrypsin are not known to form the same complexes as the native alpha 1-antitrypsin. This is seen from the reference where it is stated that native alpha 1-antitrypsin does not work.

In infestations of the protozoan parasite cryptosporidium parvum, it has been found that serine protease inhibitors form a complex similar to serpics-enzyme complex alpha 1-antitrypsin forms with a protease target. The protease inhibitor interacts with sporozolites. In addition, the protease inhibitors reduce the inflammation and the pain caused by the kinins and kallikreins.

Consequently, the protease inhibitors of the present claims treat the infestations by a different mechanism but in addition it is by the alteration of the amino acid sequence that the prior art is capable of producing its desired result.

The Examiner is also asked to consider that the present invention relates to the treatment of eye and ear infections. The prior art discusses body fluids and tissues. These altered proteins not only do not set forth the same function as native protease inhibitors but may not be recognized for removal by macrophages.

The present application has working examples of pilot studies wherein unexpected results are achieved.

In addition, the cited reference is silent with regard to secretory lencocyte protease inhibitor and anti-plasmin inhibitor.

The use of hyaluronic acid in eye injuries and infections helps to expedite healing caused by destructive enzymes such as plasmin or the combination of elastase and cathepsin-G.

It can therefore be seen that the present invention provides specific advantages over variants of native protease inhibitors and does not provide the same mechanism in the treatment of diseases or infections of the eye and ear.

Reconsideration and favorable action are earnestly solicited.

If there are any outstanding issues the Examiner is requested to telephone the undersigned.

Respectfully yours,

John Lezdey
Registration No. 22,735

John Lezdey & Associates
1409 N. Ft. Harrison
Suite A
Clearwater, FL 33755
(727) 441-1880

Date: 6/22/01
Docket No.: 1434-25